



NEXUS
ENERGY CENTER

Energy Huntsville Forum

August 25, 2011

Ruchi Singhal
Executive Director
Nexus Energy Center
ruchi@nexusenergycenter.org

Alabama Air Quality issues

- ▶ 1. Tightening of air quality standards
- ▶ 2. Lots of heavy industry and coal-fired utilities
- ▶ 3. Emissions from forest management and wood-burning
- ▶ 4. High vehicle miles per capita
- ▶ 5. **Topology in North Alabama**
- ▶ 6. Climatology: Stagnations



Positive steps forward

1. Reduce energy consumption
2. Reduce imports of foreign energy commodities
3. Create sustainable energy sources for both stationary and mobile uses that reduce air pollution
4. Encourage local Energy business growth and entrepreneurs



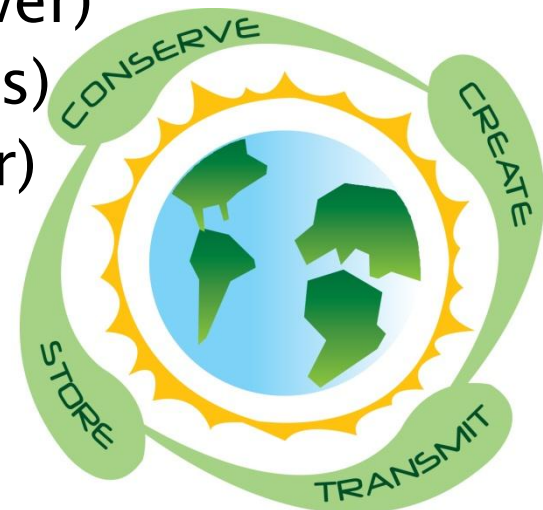
Why Nexus?

▶ Nexus Mission:

- To be a consortium of talented businesses, researchers, and entrepreneurs dedicated to bringing energy solutions to our community.

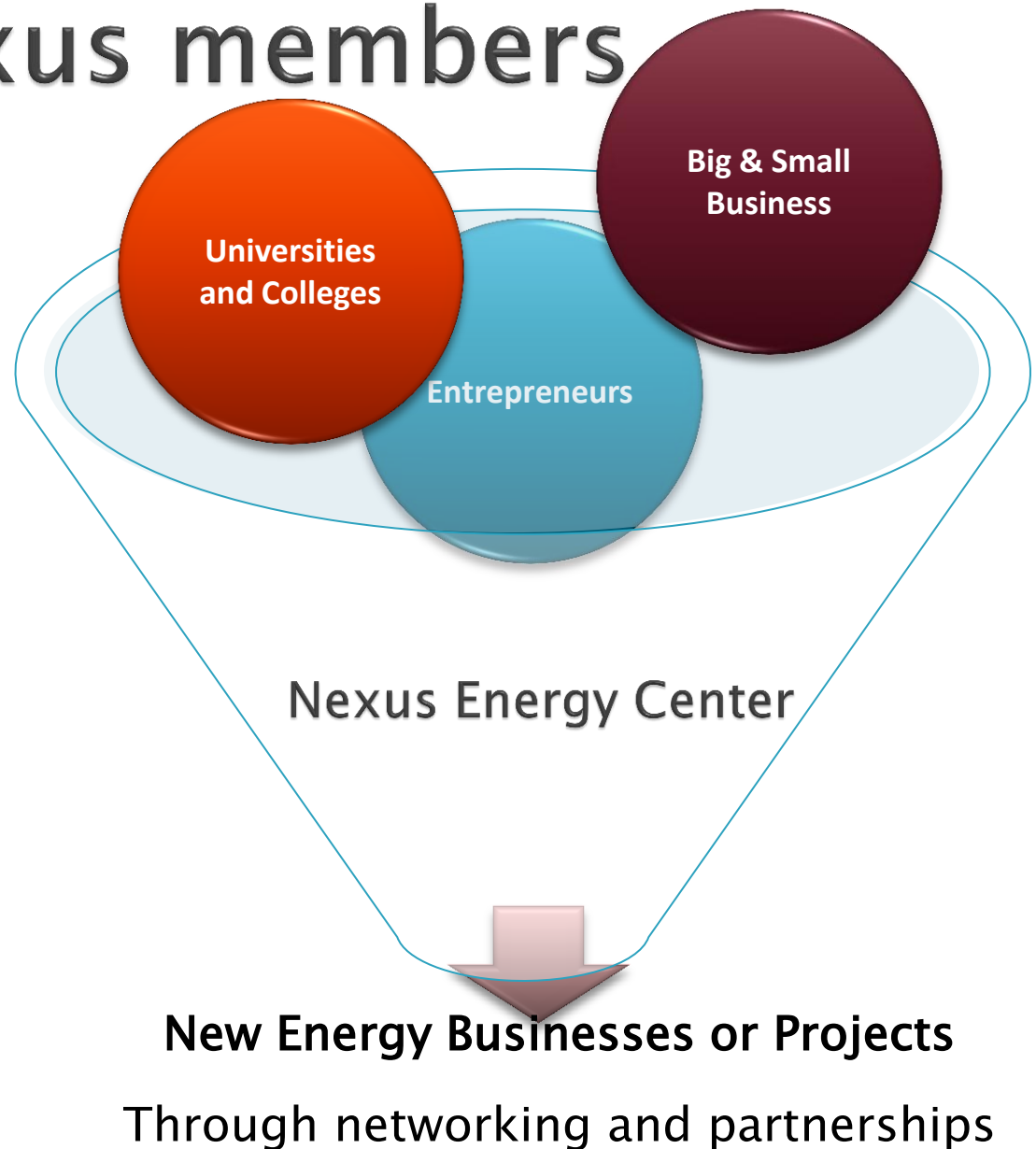
▶ 4 Energy Areas:

- Conservation (efficiency products and services)
- Generation (renewables, clean power)
- Transmission (smart grid, power lines)
- Storage (batteries for home/car)

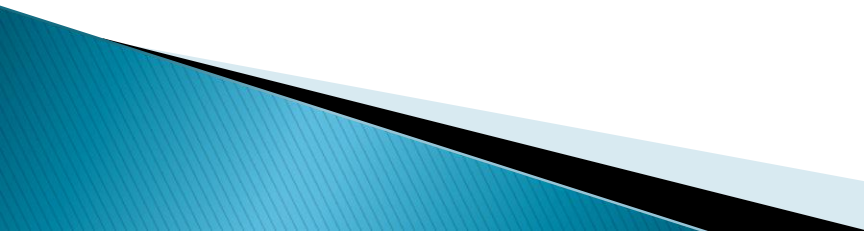


Who are Nexus members

- ▶ Began member growth in Fall 2009
- ▶ By summer 2010 we have over 200 members comprising of 80 unique companies
- ▶ In 2011 grown to 250 individual supporters



Nexus and Huntsville

- ▶ Huntsville utilities has participated in energy efficiency programs with TVA
 - ▶ City of Huntsville ran a “Green 13” taskforce to create sustainability plan for city
 - ▶ Oak Ridge opens office at UAHuntsville to promote partnerships
 - ▶ New groups like, Nexus Energy Center, created to fill need –address cutting edge moves in clean energy
 - ▶ New energy initiative by city, Nexus plays key role
- 

Energy Huntsville Initiative

- ▶ Mayor supported initiative
- ▶ Several stakeholders
- ▶ 6 focus areas
 - Facilities installation (Redstone)
 - Energy Production
 - Tech Validation/Underwriters Lab
 - Research and Tech Transfer
 - **Community Energy Management (Nexus lead)**
 - **Nexus projects fall under this area**

Huntsville Homes

Worthwhile Investments
Save Energy

- ▶ Nexus and Huntsville Utility team up
- ▶ Funded by HU and Nexus SEEA grant (ARRA \$)
- ▶ Homeowners get basic audit (free)
- ▶ Rebates/coupons apply to implementation of energy efficiency measures in the home

- ▶ Launched Jan 2011
- ▶ Open to any single family home
- ▶ Auditing up 40 homes/month

huntsville gold



- ▶ Nexus, ADECA, and SEEA team up
- ▶ Funded by DOE's BBP and SEP
- ▶ 2% homes retrofitted with some kind of energy efficiency (saving 20% energy)

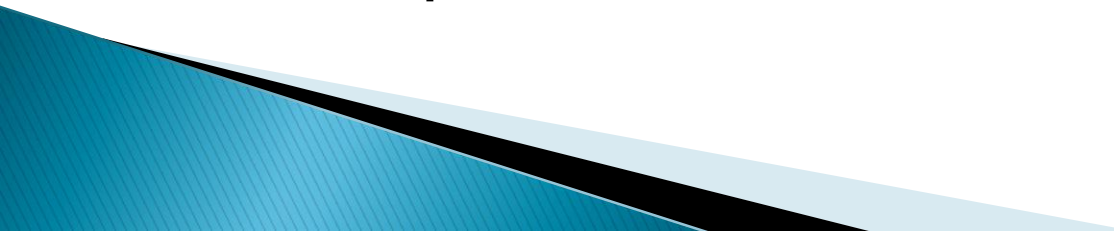
- ▶ More extensive audit with testing
- ▶ Soft launch July 2011
- ▶ Green U, promote to community
- ▶ Grow contractors business, Economic Dev.
- ▶ Financing COMING SOON!

Renewable Energy Institute @ Drake State

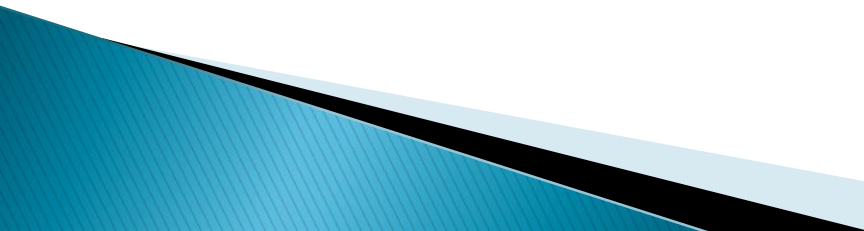
- ▶ Nexus, Drake and partners team up
- ▶ Funded by ADECA SESP grant
- ▶ 200 students trained in 24 months on various green skills
- ▶ In curriculum development and training installation stage
- ▶ Renewable Energy Lab – demonstration and learning center

- ▶ Launch 2011
- ▶ Open to unemployed, veterans, students
- ▶ Graduates to join Huntsville job market
 - Home renovation contractors, energy installations

Creating “energy” workers

- ▶ Nexus providing outreach to attract participation in class and placement into work
 - ▶ Drake will host the classes, provide student assistance, and instructors
 - ▶ Southern Solar providing hands-on equipment for students
 - ▶ Still Serving Veterans ensuring 20% of class are veterans and support to them
 - ▶ Green Jobs alliance determines potential for hire in our community and curriculum development
- 

Other Community Projects

- ▶ Schools and Academia
 - Schools interested in ESCO's for energy installations
 - Universities interested in joining Green Campus (UAH on board)
 - ▶ Commercial community energy outreach
 - ▶ Military/Installation energy applications
 - ▶ Community Renewable Demonstration projects
 - ▶ Gathering local technical capabilities
- 

Solar to Tornado victims



- ▶ After massive tornado destruction in northern Alabama, Nexus organized mobilizing solar power generators for Harvest, AL
- ▶ Outpost Solar military grade demo

Solar Parking

- ▶ Reduce heat island effect
- ▶ Marketing of green efforts
- ▶ Electric Car charging capabilities
- ▶ Power can go to grid, TVA can purchase

- ▶ Contact
- ▶ Greg Cox – (256) 679-1250

Example solar projects







